

REMARKS/ARGUMENTS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested. Claim 9 has been amended. New claims 19-23 have been added. Support for the amendment and new claim can be found throughout the specification, such as, for example, at page 3, lines 5-7; page 6, lines 24-29; and at page 7, lines 1-5. No new matter has been added. Specifically, for example, the pending application discusses that the transition alumina can have a BET surface area in the range 150-400 m²/g (see, for example, page 2, line 26), and that the transition alumina can have a pore volume in the range of 0.3 to 1.0 (see, for example, page 3, lines 5-7; and at page 7, lines 1-5). Accordingly, the application discloses transition alumina having an average pore diameter of 88-266 angstroms (see formula for "average pore diameter" of $(4V_p/A)$ at page 6, lines 26-27 of the application). Specifically, $(4*0.3)/150$ equals 80 angstroms, and $(4*1.0)/150$ equals 266 angstroms.

In response to the Examiner's comments to our previous amendment, it is noted that new claim 20 defines a porous transition alumina having a copper species coated thereon, *i.e.*, without any intervening layers.

Claims 9-18 have been rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent 6,703,342. Applicants will address this rejection upon indication of allowable subject matter.

Claims 9-18 have been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 3,226,340 ("Stephens"). Applicants respectfully assert that the Examiner has failed to make a *prima facie* case of obviousness. Specifically, while the Examiner asserts that "the taught process [in Stephens] is the same as that instantly claimed and would therefore produce the instantly claimed product having or overlapping the instantly claimed atomic ratio and surface area," Applicants point to the fact that the processes of Stephens and of the present invention are not the same.

Specifically, the Stephens process involves both (a) pre-coating transition alumina with a metal oxide initial layer, and (b) impregnating the pre-coated transition alumina with a copper complex. In fact, Stephens explicitly teaches that:

precoating the carrier material with one or more metal oxides and thereby forming a thin layer previous to impregnation with copper oxide, is a critical feature of the catalyst of [Stephen's] invention.

(col. 3, lines 5-9 of Stephens)

The present invention, however, does not involve precoating transition alumina with an initial layer of metal oxide prior to the impregnation step with copper complex. Accordingly, because the processes of Stephens and the present invention are not the same, there is no basis to presume that a product of Stephens' process will have the instantly claimed atomic ratio and surface area.

In fact, unexpectedly high copper complex loadings have been achieved in the present invention using transition alumina having the recited properties. Surely, such high loadings of copper complex cannot be achieved using a process (such as in Stephens) that involves at least partially filling the pores of alumina before contacting the alumina with the copper complex?

Therefore, nowhere in the reference does Stephens discuss the specifics of our process (e.g., temperature, compositional ranges, etc.) to achieve the specifics of our composition as claimed.

It should be noted that the Stephens reference does not teach or suggest a composition comprising a copper species supported on a porous transition alumina having a pore volume in the range between 0.3 and 1.0 ml/g --- and certainly does not teach or suggest using a transition alumina that comprises a pore volume in the range between 0.45 and 1.0 ml/g (as recited by pending claims 19 and 23) or using a transition alumina having an average pore diameter in the range of 80 to 266 angstroms (as recited by pending claim 21).


For at least these reasons, the claims as amended are believed to be patentable over the cited reference.

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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